

8/30/2006 Response to Office Action
U.S.S.N. 10/616,335

Page 4

REMARKS

Claims 1-19 are pending in this application. Claims 1-19 are directed towards a method of polishing a substrate including at least one metal layer. Claim 1 is currently amended.

Claims 1-19 are rejected on the grounds of 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Office Action states that claim one is written in a very confusing manner because of the statement that the slurry does not contain a film-forming agent.

The applicants respectfully disagree, however to expedite the prosecution of this application applicants have amended claim 1 to include the description of "passivating" film-forming agent. Support for the amendment can be found in the original specification, for example at paragraph [0014].

The Office Action has rejected claims 1-19 on the grounds of non-statutory obviousness-type double patenting as being unpatentable over claims 1-38 of U.S. Patent No. 5,783,489. The Office Action states that although the conflicting claims are not identical, they are not patentably distinct. The previous Office Action of December 23, 2005 states that the '489 patent fails to teach the specific usage of a complexing agent, specific process parameters, use of colloidal silica, use of tartaric and the use of a surfactant. The Office Action asserts that it would have been inherent that the succinic acid of the '489 patent would function as a complexing agent.

Applicants respectfully disagree. The '489 patent teaches a method of chemical mechanical polishing comprising using a composition comprising an abrasive, a first oxidizer, a second oxidizer, and at least one organic acid. An important aspect of their invention is the second oxidizer. The second oxidizer is included to polish aluminum and aluminum containing alloy metals with good selectivities. The present invention claims only one oxidizer in combination with the other components. Additionally, claim 1 is currently amended to include the limitations of a 'copper containing substrate', and 'removing at least a portion of the copper.' Therefore, a person of skill in the art the time of the invention would not have been motivated to omit one oxidizer from the polishing composition because the '489 patent teaches that it is essential. For at least this reason claims 1-19 of the present invention are patentably distinct over claims 1-38 of the '489 patent. The applicants respectfully request that the non-statutory obviousness-type double patenting rejection be withdrawn.

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8/30/2006 Response to Office Action
U.S.S.N. 10/616,335

Page 5

Claims 1-15 are rejected on the grounds of non-statutory obviousness-type double patenting as allegedly being unpatentable over claims 1-31 of U.S. Patent No. 5,980,775. The Office Action states that although the claims are not identical, they are not patentably distinct from each other because the '775 patent claims a method for CMP polishing a metal layer using a CMP slurry which is comprised of an organic acid stabilizer, an oxidizer and a metal oxide abrasive particle. The Office Action further states that the '775 patent fails to teach the use of a surfactant, use of a complexing agent and use of colloidal silica. The Office Action asserts that it would have been inherent that the citric acid in the slurry taught by the '775 patent would function as a complexing agent.

The applicants respectfully disagree. The method and compositions claimed by the '775 patent contain a metal catalyst having multiple oxidation states in addition to the oxidizing agent and the complexing agent. The catalyst is an essential component of the slurry taught by the '775 patent. Omitting the catalyst, in order to arrive at the present invention, would necessarily omit the citric acid. A person of skill in the art would be required to proceed contrary to the teachings of the cited art to arrive at the present invention, because the stabilizer (citric acid) is present only to stabilize the catalyst. Therefore claims 1-15 of the present invention are not obvious over the '775 patent claims. For at least these reasons, the present invention is patentably distinct from the '775 patent claims. Applicants respectfully request that the rejection on the grounds of non-statutory obviousness-type double patenting over claims 1-31 of U.S. Patent No. 5,980,775 be withdrawn.

Claims 1-15 are rejected on the grounds of non-statutory obviousness-type double patenting as allegedly being unpatentable over claims 11-18 of U.S. Patent No. 6,068,787. The Office Action states that although the claims are not identical, they are not patentably distinct from each other because the '787 patent claims a method for CMP polishing a metal layer using a CMP slurry which comprised an organic acid stabilizer and oxidizer, and a metal oxide abrasive particle. The Office Action further states that the '787 patent fails to claim the specific usage of a surfactant the usage of a complexing agent, and usage of colloidal silica. The Office Action asserts that it would have been inherent that the malonic acid in the CMP slurry taught by the '787 patent would function as a type of complexing agent since the same chemistry is involved.

The applicants respectfully disagree. The method and compositions claimed by the '787 patent contain a metal catalyst having multiple oxidation states in addition to the oxidizing agent and the complexing agent. The catalyst is an essential component of the slurry taught by the '787 patent. Omitting the catalyst, in order to arrive at the present

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8/30/2006 Response to Office Action
U.S.S.N. 10/616,335

Page 6

invention, would necessarily omit the citric acid. A person of skill in the art would be required to proceed contrary to the teachings of the cited art to arrive at the present invention, because the stabilizer (citric acid) is present only to stabilize the catalyst. Therefore, claims 1-15 of the present invention are not obvious over the '787 patent claims. For at least these reasons, the present invention is patentably distinct from the '787 patent claims. Applicants respectfully request that the rejection on the grounds of non-statutory obviousness-type double patenting over claims 11-18 of U.S. Patent No. 6,068,787 be withdrawn.

Claims 1-15 are rejected on the grounds of non-statutory obviousness-type double patenting as allegedly being unpatentable over claims 1-7 of U.S. Patent No. 6,316,366. The Office Action states that although the claims are not identical, they are not patentably distinct from each other because the '366 patent claims a method for CMP polishing a metal layer using a CMP slurry which comprised succinic acid and an oxidizer, and a metal oxide abrasive particle. The Office Action further states that the '366 patent fails to claim the specific usage of a surfactant, the usage of a complexing agent, and usage of colloidal silica. The Office action asserts that it would have been inherent that the succinic acid in the CMP slurry taught by the '366 patent would function as a type of complexing agent since the same chemistry is involved.

The applicants respectfully disagree. The '366 patent teaches the use of succinic acid in an amount sufficient to enhance the oxide selectivity without detrimentally effecting the stability of the CMP slurry. The '366 patent teaches the use of urea and ammonium persulfate as essential features of the polishing composition in addition to the oxidizer, abrasive and succinic acid. This composition taught by the '366 patent uses succinic acid to promote passivation of aluminum and to inhibit the removal of the dielectric layer. Omitting the ammonium persulfate of the '366 invention to arrive at the present invention would necessarily omit the succinic acid, as the persulfate is used as an oxidizer for aluminum and is used in concert with the aluminum passivating agent, succinic acid. For the reasons stated above, a person skilled in the art would not be motivated to modify the '366 patent to arrive at the method of the present invention. Therefore claims 1-15 of the present invention are indeed patentably distinct over claims 1-7 of the '366 patent. The applicants respectfully request that the rejection on the grounds of non-statutory obviousness-type double patenting over claims 1-7 of U.S. Patent No. 6,316,366 be withdrawn.

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the

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8/30/2006 Response to Office Action
U.S.S.N. 10/616,335

Page 7

Examiner, a telephone conference would expedite the prosecution of the subject application,
the Examiner is invited to call the undersigned agent.

Respectfully submitted,

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